

## PK Changes in Recordings of Temperature

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Ingo Swann, an artist with marked psychic ability, found that he seemed able to change the temperature of a distant object. Subsequent research, described below, showed that he (and another subject) could indeed make recordings of temperature conform to the experimenter's directives of "Hotter" or "Colder" although the effects of body temperature and room temperature were controlled. Concomitant temperature changes which Ingo was not deliberately producing suggest a technique for exploring the source of energy for PK changes and how PK relates to distance.

## Method

Apparatus for measuring temperature change was a 4-thermister bridge, used in conjunction with a Beckman Type R Dynograph.<sup>1</sup> Each thermister was sensitive to extremely small temperature changes. Pretests showed the thermisters recorded independently, permitting four simultaneous temperature readings.

The basic procedure consisted of designating some one of the thermisters as the target, and instructing Ingo according to a predetermined counterbalanced sequence to make this target hotter or colder. The three other thermisters were used to monitor temperature changes elsewhere in the room and on Ingo's skin.

The initial session was exploratory and gave promising results.

<sup>1</sup> Larry Lewis monitored the Dynograph and gave other invaluable assistance with the apparatus in every session; and I am most grateful to him.

It was followed by four formal sessions with Ingo and one session each with two student volunteers. The following procedure was used (with minor variations necessitated by machine resetting, etc.)

The session was divided into two halves, separated by a longish rest period. Each half consisted of sixteen periods, each 45 seconds: eight rest periods alternating with instructions to change temperature. The order of instructions was predetermined in a counterbalanced design: ABBABAAB for the first half, then BAABABBA for the second. Thus when the first half began with Rest, Hotter, Rest, Colder, Rest, Colder, the second half would begin with Rest, Colder and continue as a mirror image of the first.

Readouts were independently scored by a "blind" judge<sup>2</sup> and by the author, as follows. Vertical lines on the polygraph paper designated the beginning of instructions and each 5 second interval thereafter. An arbitrary baseline was selected for each thermister readout. Difference from the baseline was recorded at each 5 second line. This yielded for each "Hotter" and "Colder" period one initial reading, 8 middle readings and one terminal reading.

Data were evaluated by Abelson and Tukey's method for time series (1963). The method essentially consists of analysis of variance with a correction factor.

#### Results

Evaluation of Ingo's eight half-sessions showed four with no significant difference between hotter and colder periods, and four with significant differences in accordance with instructions. The

<sup>2</sup> Geraldine Schwalb volunteered to do this tedious chore, and I both admire her accuracy and feel very grateful for her help.

four significant changes occurred under these conditions:

Session 2, 1st half. Control thermisters: (a) on Ingo's left inner wrist; (b) 3 ft. to his left; (c) 12 ft. to his left. Target: 6 ft. to Ingo's left ( $p = .001$ ).

Session 2, 2nd half. Same thermister placement as above ( $p = .05$ ).

Session 3, 2nd half. Control thermisters: (a) on Ingo's left wrist; (b) 4 ft. to his left and above him; (c) 5 ft. in front of him. Target: sealed into thermos bottle beside the control thermister, i. e., 5 ft in front of Ingo ( $p = .001$ ).

Session 4, 1st half. Control thermisters: (a) sealed into thermos 4 ft. to Ingo's left; (b and c) two thermisters sealed into a single thermos, 4 ft. from Ingo to his left and slightly behind him. Target: sealed into thermos 25 ft. from Ingo, to his left and slightly behind him ( $p = .001$ ).

In addition, one of the student volunteers showed significant target changes in accordance with instructions for his first half-session, under the same conditions as Ingo's session 2 ( $p = .001$ ). The other three half-sessions with the students showed no significant change in the target.

The most striking response was unscorable, since it occurred in the rest period between halves of Ingo's third session. Ingo and I were in a room insulated by wire mesh, without radiator or window; each of us was 5 ft. from the thermos and the uninsulated thermister beside it and we both remained seated for the first half of the session, the rest period between halves, and the second half. Lewis monitored the polygraph, glanced intermittently at the readout for the thermister in the thermos, and apparently noted each time that, as he had anticipated, it showed a flat line indicating no temperature change. In the first half of the session, the uninsulated thermister next to the thermos had been the target. In the rest

period between halves I told Ingo that for the second half, the thermister in the thermos would be the target. Ingo was pleased with the challenge. As we remained seated and continued to chat, he thought about the precise location of the thermister within the thermos space (in his words, probed for it). The polygraph readout for that thermister then began to show such marked perturbations that Lewis deserted the polygraph and burst into the room to find if we had opened the thermos bottle.

Data for the control thermisters showed that the wrist never gave a significant difference in relation to instructions, but that other thermisters sometimes did. The others also showed some significant positive and negative correlations with target change. They suggest that perhaps PK may operate by changing heat patterns between two areas, e. g., that as the target area grows warmer, another area may grow colder.

#### Reference

Abelson, R. P. & Tukey, J. W. Efficient ~~xxxixxx~~ utilization of non-numerical information in quantitative analysis: general theory and the case of simple order. Annals of Mathematical Statistics, 1963, 34, 1347-1369.